

ABSTRACT OF DISCLOSURE

The methods and structures of the present invention involve providing a vertical dynamic random access memory (DRAM) cell device comprising a buried strap which can be laterally constrained, thereby maintaining freedom from cross talk, even at 6F2 scaling, in the absence of adjacent Shallow Trench Isolation (STI).

The methods and structures of the present invention involve the further recognition that the STI can therefore be vertically confined, freed of any need to extend down below the level of the buried strap. The reduction of the buried strap to 1F width and the concomitant reduction in the depth of the STI together permit a significantly reduced aspect ratio, permitting critically improved manufacturability.